

*MULTI-POSITION, VARIABLE-SPEED
ECM-BASED, MODULAR BLOWER
COMFORTBRIDGETM COMPATIBLE*



Contents

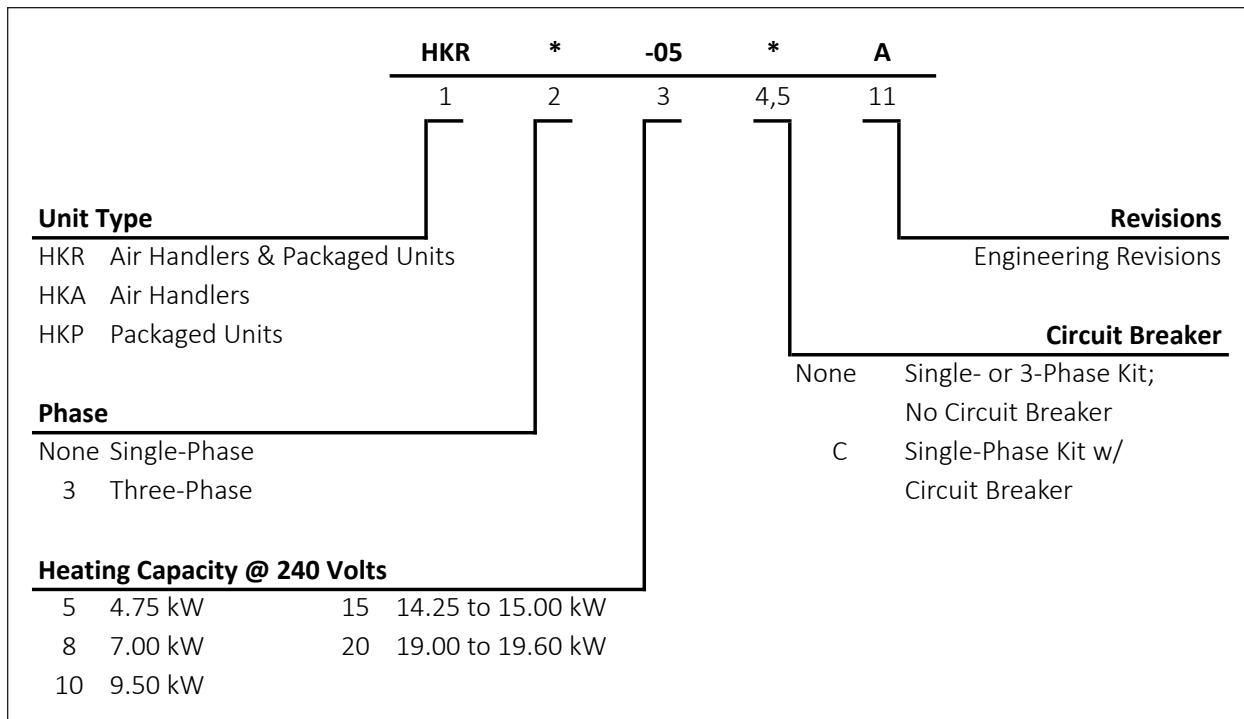
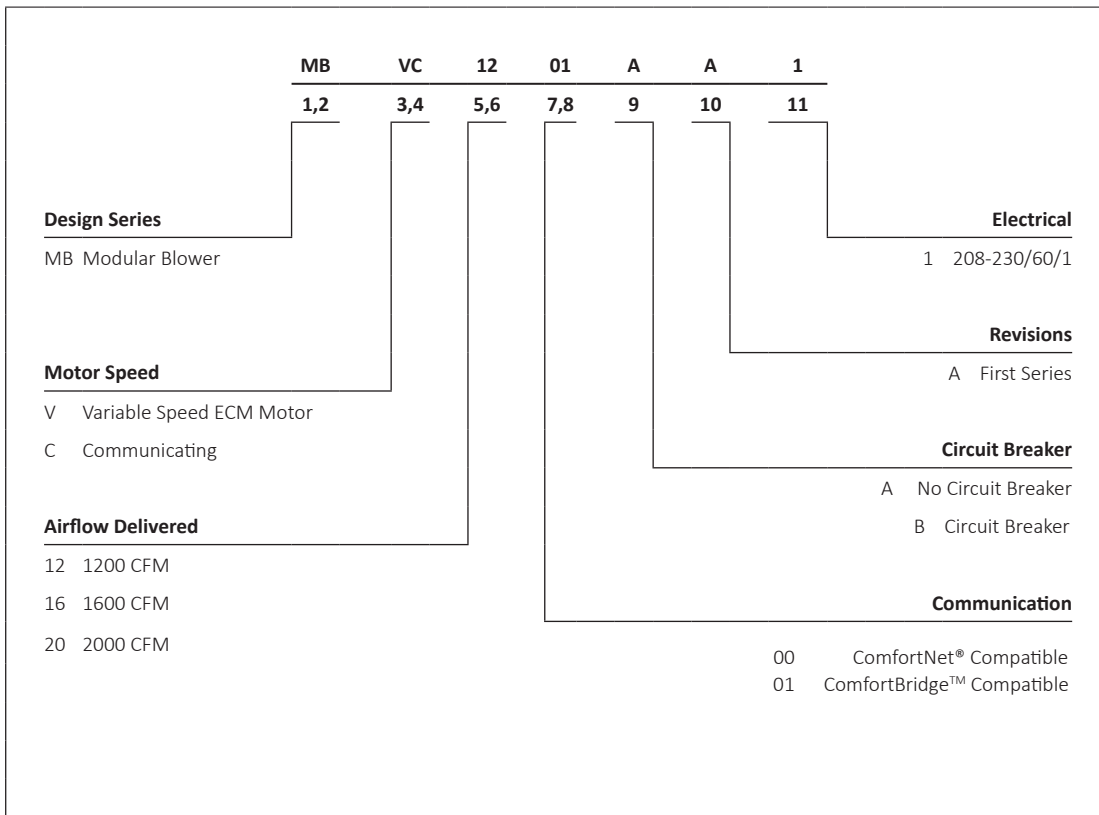
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Product Features

- Variable-speed ECM blower motor
- Integrated communicating ComfortBridgeTM Technology
- Commissioning and diagnostics via on board Bluetooth with the Cool-Cloud phone and tablet application
- Advanced configuration of the airflow and tonnage in communicating mode
- Provides constant CFM over a wide range of static pressure conditions independent of duct system
- CFM indicator
- Fault recall of six most recent faults
- Provides adjustable low CFM for efficient fan-only operation
- Improved humidity and comfort control
- Built-in compatibility with multi-stage heat pump and cooling applications
- Blower section usable as electric heater
- AHRI certified; ETL listed
- Horizontal or vertical configuration capabilities
- 21" depth for easier attic access
- Foil-faced insulation covers the internal casing to reduce cabinet condensation
- Galvanized, leather grain-embossed finish
- Cabinet air leakage less than 2% at 1.0 inch H₂O when tested in accordance with ASHRE standard 193
- Cabinet air leakage less than 1.4% at 0.5 inch H₂O when tested in accordance with ASHRE standard 193
- Field Installed 3 kW – 25 kW electric heater kits available



* Complete warranty details available from your local dealer or at www.franklinhvacsystems.com. To receive the 10-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration is not required in California or Quebec.



| MODEL | MBVC1201AA-1 | MBVC1601AA-1 | MBVC2001AA-1 |
|--------------------------------|--------------|--------------|--------------|
| BLOWER | | | |
| Diameter | 10" | 10" | 11" |
| Width | 8" | 8" | 10" |
| ELECTRICAL DATA | | | |
| Voltage | 208 / 230 | 208 / 230 | 208 / 230 |
| Min Circuit Ampacity | 4.9 | 6.5 | 6.5 |
| Max. Overcurrent Device (Amps) | 15 | 15 | 15 |
| Blower Motor | | | |
| Horsepower (HP) | ½ | ¾ | ¾ |
| SHIP WEIGHT (LBS.) | 67 | 80 | 86 |

- Minimum Circuit Ampacity (MCA) and Maximum Overcurrent Protection (MOP) for blower without supplemental heat installed. Refer to unit nameplate for these specifications with approved accessory heaters installed.
- Condensate management kits are available for units installed in high temperature and high humidity areas. Kit number MBK0002 has been developed to resolve condensate issues in the field for MBVCs and is available from the Service Parts Department. Refer to IO-849 for installation instructions.

| MODEL | SPEED TAP | SPEED | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 |
|------------|-----------|-------|------|------|------|------|------|------|------|------|------|
| MBVC1201A* | A | Low | 420 | 415 | 400 | 400 | 395 | 390 | 390 | 390 | 380 |
| | B | Low | 550 | 545 | 540 | 540 | 535 | 530 | 530 | 525 | 520 |
| | C | Low | 680 | 675 | 670 | 665 | 660 | 655 | 655 | 650 | 640 |
| | D | Low | 810 | 805 | 800 | 800 | 800 | 795 | 790 | 785 | 785 |
| | A | High | 615 | 605 | 600 | 600 | 595 | 590 | 590 | 585 | 580 |
| | B | High | 805 | 805 | 800 | 800 | 800 | 795 | 790 | 785 | 780 |
| | C | High | 1010 | 1005 | 1000 | 1000 | 995 | 995 | 990 | 985 | 975 |
| | D | High | 1210 | 1205 | 1200 | 1200 | 1200 | 1195 | 1195 | 1190 | 1180 |
| MBVC1601A* | A | Low | 690 | 680 | 670 | 665 | 660 | 655 | 625 | 595 | 575 |
| | B | Low | 850 | 830 | 800 | 795 | 790 | 785 | 775 | 750 | 725 |
| | C | Low | 980 | 970 | 940 | 935 | 930 | 910 | 890 | 865 | 860 |
| | D | Low | 1110 | 1085 | 1070 | 1055 | 1045 | 1025 | 1000 | 990 | 975 |
| | A | High | 1045 | 1015 | 1000 | 990 | 975 | 950 | 935 | 920 | 900 |
| | B | High | 1245 | 1215 | 1200 | 1180 | 1175 | 1165 | 1150 | 1130 | 1115 |
| | C | High | 1415 | 1410 | 1400 | 1365 | 1360 | 1350 | 1340 | 1330 | 1320 |
| | D | High | 1605 | 1600 | 1600 | 1540 | 1530 | 1520 | 1510 | 1500 | 1490 |
| MBVC2001A* | A | Low | 835 | 815 | 800 | 800 | 795 | 795 | 790 | 775 | 750 |
| | B | Low | 1075 | 1070 | 1070 | 1065 | 1050 | 1045 | 1045 | 1040 | 1035 |
| | C | Low | 1210 | 1205 | 1200 | 1200 | 1195 | 1190 | 1190 | 1185 | 1175 |
| | D | Low | 1345 | 1340 | 1340 | 1320 | 1320 | 1315 | 1315 | 1305 | 1305 |
| | A | High | 1210 | 1205 | 1200 | 1195 | 1150 | 1150 | 1145 | 1135 | 1115 |
| | B | High | 1610 | 1605 | 1600 | 1540 | 1535 | 1535 | 1530 | 1520 | 1510 |
| | C | High | 1830 | 1805 | 1800 | 1785 | 1760 | 1760 | 1755 | 1750 | 1715 |
| | D | High | 2020 | 2010 | 2000 | 1995 | 1995 | 1970 | 1970 | 1965 | 1955 |

COOLING AND HEAT PUMP AIRFLOW

| S1 | S2 | SPEED TAP | MBVC1201 AIRFLOW (SCFM) | MBVC1601 AIRFLOW (SCFM) | MBVC2001 AIRFLOW (SCFM) |
|-----|-----|-----------|-------------------------|-------------------------|-------------------------|
| off | off | A | 600 | 1000 | 1200 |
| on | off | B | 800 | 1200 | 1600 |
| off | on | C | 1000 | 1400 | 1800 |
| on | on | D | 1200 | 1600 | 2000 |

HEAT KIT AIRFLOW

| COOLING / HP / AUX TRIM | | | COOLING PROFILE | | |
|-------------------------|-----|------------|-----------------|-----|---|
| S3 | S4 | Trim Value | S5 | S6 | |
| off | off | 0 | off | off | A |
| on | off | 10% | on | off | B |
| off | on | -10% | off | on | C |
| on | on | 0 | on | on | D |

NOTES

- The chart is for information only. For satisfactory operation, external static pressure must not exceed value shown on rating plate.
- Use the CFM adjustment factors of .98 for horizontal left, .95 for horizontal right & .96 for downflow orientations.

| MODELS | CIRCUIT 1 | | | CIRCUIT 2 | | | SINGLE-POINT KIT | |
|-----------------------|-------------|------------------|------------------|-------------|------------------|------------------|------------------|------------------|
| | HEATER AMPS | MCA ¹ | MOP ² | HEATER AMPS | MCA ¹ | MOP ² | MCA ¹ | MOP ² |
| MBVC1201AA-1A* | 0 / 0 | 4.9 / 4.9 | 15 / 15 | --- | --- | --- | --- | --- |
| HKR-03* | 10.8 / 12.5 | 18 / 20.5 | 20 / 25 | --- | --- | --- | --- | --- |
| HKR-05* / 05C* | 17.2 / 19.8 | 26 / 29.6 | 30 / 30 | --- | --- | --- | --- | --- |
| HKR-06* | 21.7 / 25.0 | 32 / 36.1 | 35 / 40 | --- | --- | --- | --- | --- |
| HKR-08* / -08C* | 25.3 / 29.2 | 36.5 / 41 | 40 / 45 | --- | --- | --- | --- | --- |
| HKR-10* / -10C* | 34.3 / 39.6 | 47.8 / 54 | 50 / 60 | --- | --- | --- | --- | --- |
| HKA-15C* | 34.3 / 39.6 | 47.8 / 54 | 50 / 60 | 17.2 / 19.8 | 21.4 / 24.7 | 25 / 25 | 69/79 | 70 / 80 |
| MBVC1601AA-1A* | 0 / 0 | 6.5 / 6.5 | 15 / 15 | --- | --- | --- | --- | --- |
| HKR-03* | 10.8 / 12.5 | 20.1 / 22 | 25 / 25 | --- | --- | --- | --- | --- |
| HKR-05* / 05C* | 17.2 / 19.8 | 27.9 / 31 | 30 / 35 | --- | --- | --- | --- | --- |
| HKR-06* | 21.7 / 25.0 | 34 / 37.8 | 35 / 40 | --- | --- | --- | --- | --- |
| HKR-08* / -08C* | 25.3 / 29.2 | 38.1 / 43 | 40 / 45 | --- | --- | --- | --- | --- |
| HKR-10* / -10C* | 34.3 / 39.6 | 49.4 / 56 | 50 / 60 | --- | --- | --- | --- | --- |
| HKA-15C* | 34.3 / 39.6 | 49.4 / 56 | 50 / 60 | 17.2 / 19.8 | 21.4 / 24.7 | 25 / 25 | 71/81 | 80 / 90 |
| MBVC2001AA-1A* | 0 / 0 | 6.5 / 6.5 | 15 / 15 | --- | --- | --- | --- | --- |
| HKR-03* | 10.8 / 12.5 | 20.1 / 22 | 25 / 25 | --- | --- | --- | --- | --- |
| HKR-05* / 05C* | 17.2 / 19.8 | 27.9 / 31 | 30 / 35 | --- | --- | --- | --- | --- |
| HKR-06* | 21.7 / 25.0 | 34 / 37.8 | 35 / 40 | --- | --- | --- | --- | --- |
| HKR-08* / -08C* | 25.3 / 29.2 | 38.1 / 43 | 40 / 45 | --- | --- | --- | --- | --- |
| HKR-10* / -10C* | 34.3 / 39.6 | 49.4 / 56 | 50 / 60 | --- | --- | --- | --- | --- |
| HKA-15C* | 34.3 / 39.6 | 49.4 / 56 | 50 / 60 | 17.2 / 19.8 | 21.4 / 24.7 | 25 / 25 | 70/80 | 70 / 80 |
| HKA-20C* | 34.3 / 39.6 | 49.4 / 56 | 50 / 60 | 34.3 / 39.6 | 42.9 / 49.5 | 45 / 50 | 92/105 | 100 / 110 |

All ampacities noted above include air handler motor amps

Circuit 1: Single-phase for Air Handlers / Circuit 2: Three-phase for HKR3 Heater Kits

¹ Minimum Circuit Ampacity (Heater Amps + Motor Amps) X 1.25

² Maximum Overcurrent Protection = 2.25 X Motor Amps + Heater Amps

* Revision level that may or may not be designated

C = Circuit Breaker Option

--- indicates Not Required

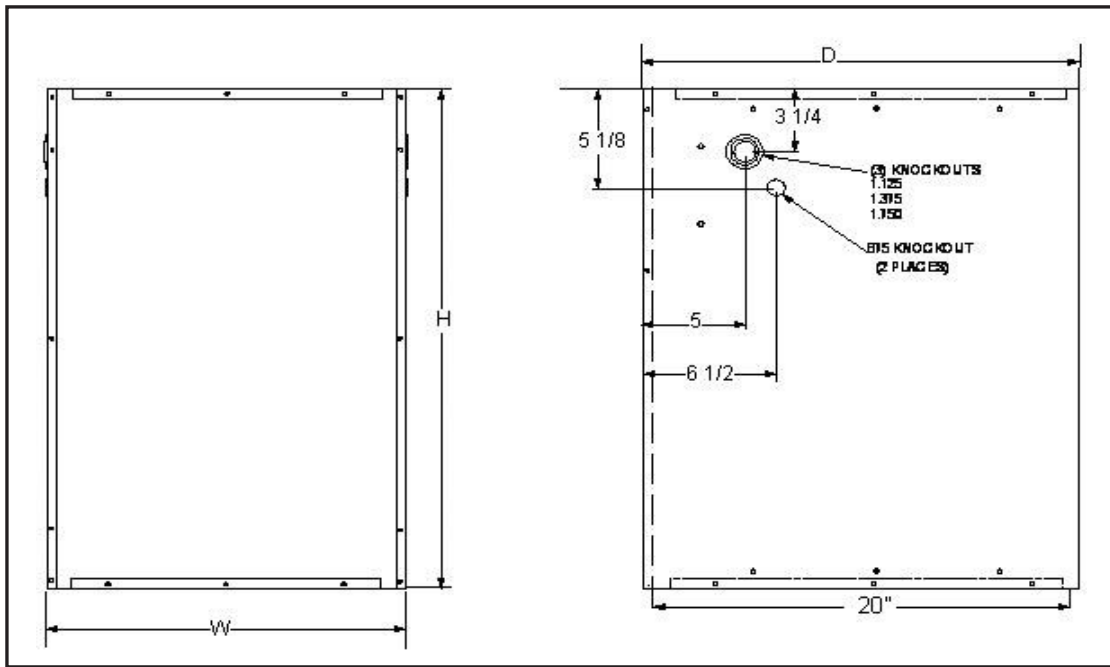
- Only applicable when HKA kits are included in table
HKA meets the new UL1995 requirements for 15 and 20KW heaters
- MBVC and MBR models

HEATING KW CORRECTION FACTOR

| SUPPLY VOLTAGE | 240 | 230 | 220 | 210 | 208 |
|-------------------|------|------|------|------|------|
| CORRECTION FACTOR | 1.00 | 0.92 | 0.84 | 0.77 | 0.75 |

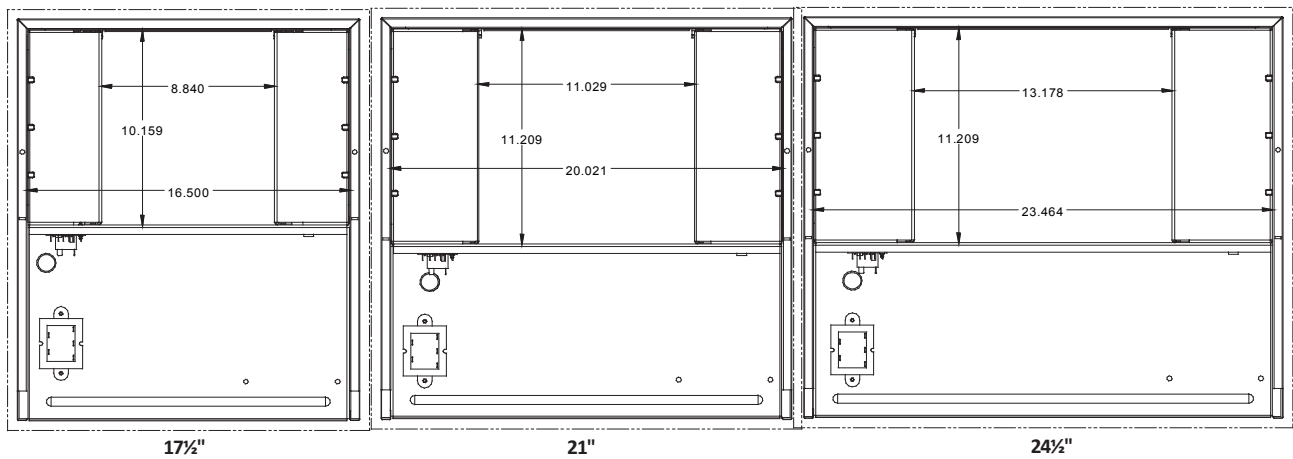
Multiply the 240-volt heating capacity by correction factors.

SIDE AND FRONT VIEWS

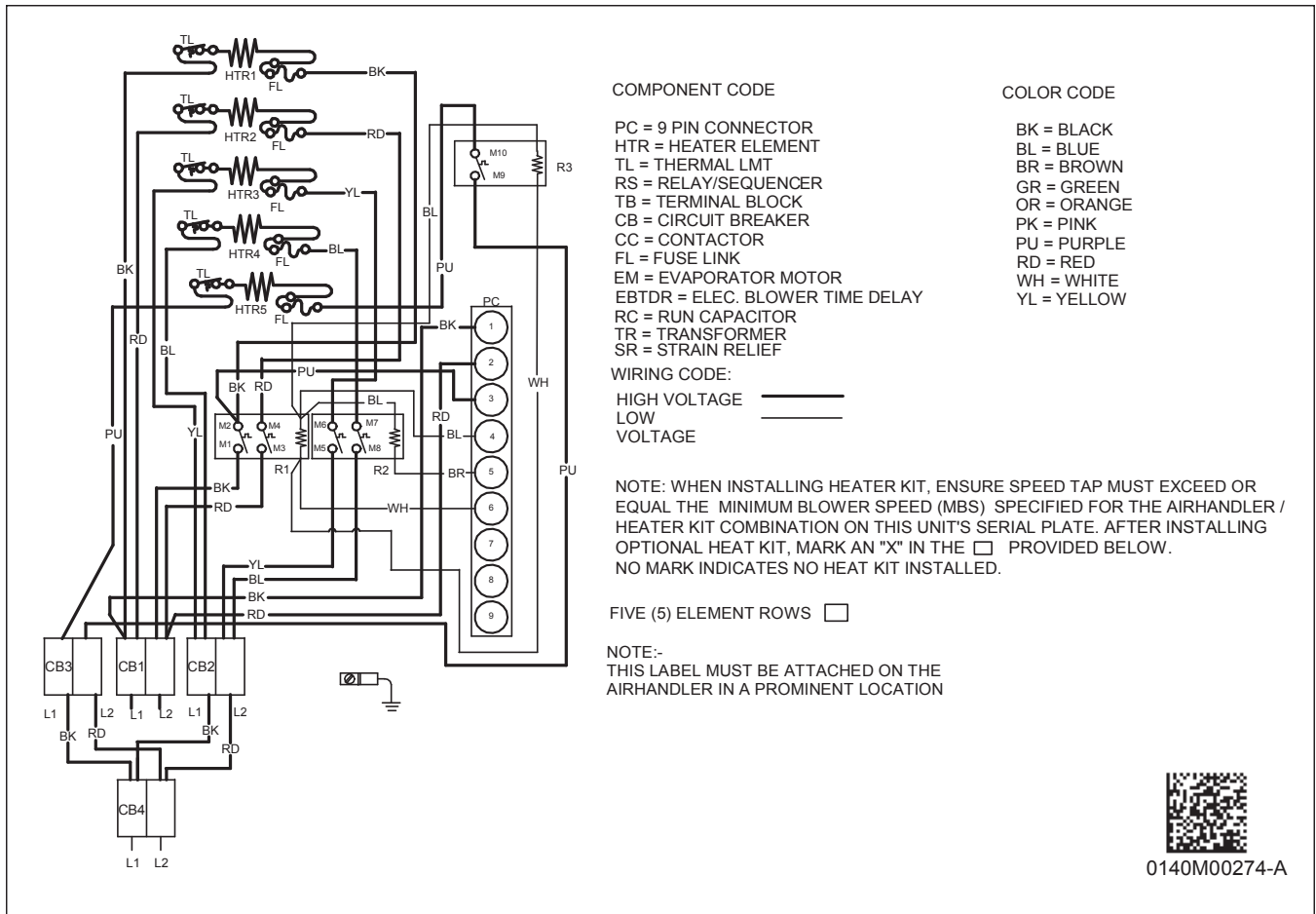


| MODEL | DIMENSIONS | | |
|--------------|------------|-------|--------|
| | WIDTH | DEPTH | HEIGHT |
| MBVC1201AA-1 | 17½" | 21" | 26" |
| MBVC1601AA-1 | 21" | 21" | 30" |
| MBVC2001AA-1 | 24½" | 21" | 30" |

TOP VIEW



WIRING DIAGRAM – FIVE-ELEMENT HEATER KIT



WARNING **High Voltage:** Disconnect all power before servicing or installing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury, or death.

Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.